

ASTAC Broadband Buildout Fiber, Satellite and Wireless

Presentation to the Governor's Task Force on Broadband
July 26th, 2021

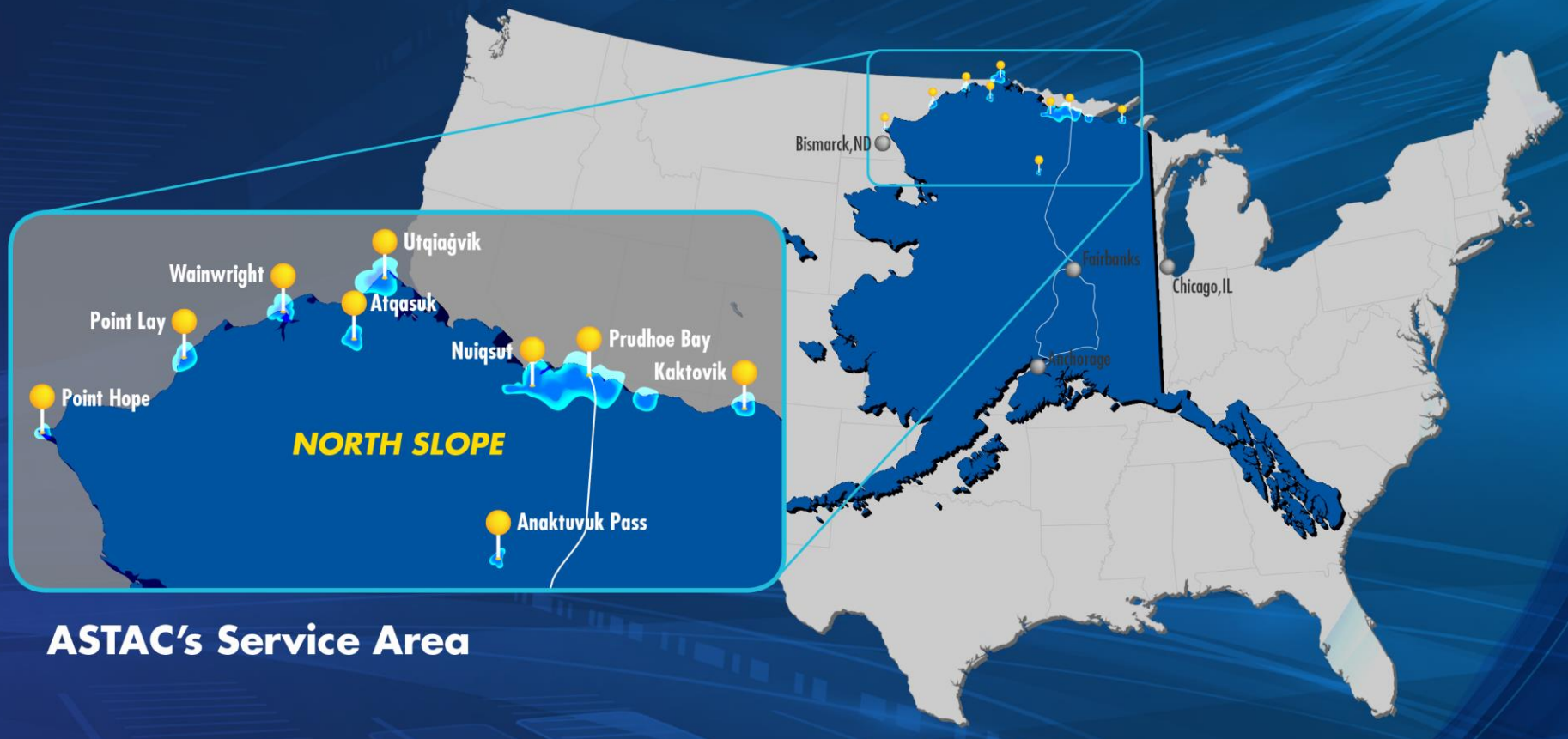


Service Providers Serving Residences the Villages of the North Slope

- Arctic Slope Telephone Association Cooperative (ASTAC):
 - Telephone – all villages
 - Broadband – all villages
 - Wireless – all villages
- GCI:
 - Telephone – Utqiagvik
 - Broadband – Utqiagvik
 - Wireless – all villages
- Alaska Communications:
 - Business only -- Utqiagvik
- HughesNet:
 - Satellite Broadband – all villages
- Quintillion:
 - Middle Mile – Nome, Kotzebue, Pt. Hope, Wainwright & Utqiagvik
- SpaceX and OneWeb:
 - Not commercially available on the North Slope.



ASTAC serving area



ASTAC's Service Area

With 40 years of experience, ASTAC has the longest continuous telephone, cellular and broadband services to the communities of the North Slope. Reaching 87% of all homes with a fiber to the home network, ASTAC has launched the North Slopes first 25/5Mbps Broadband Service on February 2, 2021

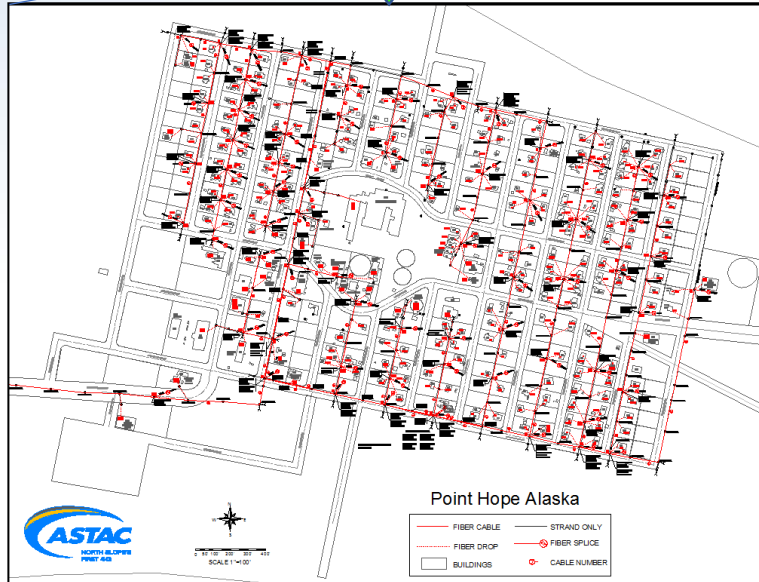
Cost Elements – Internet Service to Point Hope, AK

Local Access
Network (FTTH
Pt Hope)

Middle Mile
(Subsea/
Dalton)

Hub

Segment	% of Costs
Local Access Network	9%
Middle Mile	83%
Hub	6%
Internet	2%



Internet

ASTAC Fiber Projects

Village	Ft	Miles	% of Homes Connected	Build Timeline
Nuiqsut	35,000	6.6	100%	Completed
Point Hope	40,000	7.6	100%	Completed
Utqiagvik	218,600	41.4	100%	Completed
Wainwright	40,000	7.6	100%	Completed
Atqasuk	Village Build Scheduled Summer 21			2021/2022
Kaktovik	Village Build Scheduled Summer 21			2022
Anaktuvuk Pass	In Planning Stages			
Point Lay	In Planning Stages			

333,600

63.2

Current Percentage of All Homes Fiber Connected: 87%



Satellite Served Villages

3.8 meter dishes are now installed in all four satellite served markets.



Atqasuk
Converts to fiber
in early 2022



Kaktovik
Converts to
fiber in 2023



Anaktuvuk Pass



Point Lay

If you already have Satellite...

Why Fiber

Consideration	Fiber	Geosynchronous	Low Earth Orbit
Financial			
Initial Capex	\$1.5 to \$2.8 Billion ¹	\$6.5 Million	\$1.4 to \$3.0 Billion
Ongoing O&M	\$7.0 Million/Year (est) ²	\$100K to \$350K/Year (est)	\$500 Million/Year (est) ³
Services Costs	\$99.00 - \$10,000.00	\$99.00 - \$10,000.00	\$99.00 - \$10,000.00
Operational			
Weather Impacted	No	Yes	Yes
Useful Life	25 Years	20 Years	5 years
Capacity	30.0Tbps	110Gbps (0.11Tbps)	1.1Tbps - 8Tbps
Synchronous service	Yes	No	No
Meets FCC (Proposed) 100/100Mbps	Yes	No	No
Latency	40 - 60 ms	600 - 700 ms	40 - 60 ms
Oversubscription	1:1 to 5:1	10:1	20:1 to 100:1

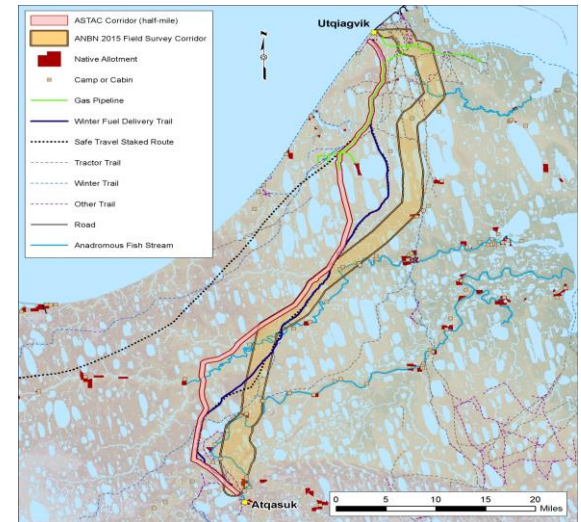
1. Statewide
2. > 50% is standby ship
3. Replacement of EOL satellites after 5 years



Utqiagvik to Atqasuk Fiber

Land laid fiber optic cable connecting the Village of Atqasuk to the City of Utqiagvik. Currently, the network in Atqasuk is satellite served.

- Route length: 70 miles
 - 18 miles strung on gas pipeline
 - 52 miles laid on tundra
- Final stage of BLM permit
 - Completing design for river crossings
- Construction planned for winter 2021/2022 (started)

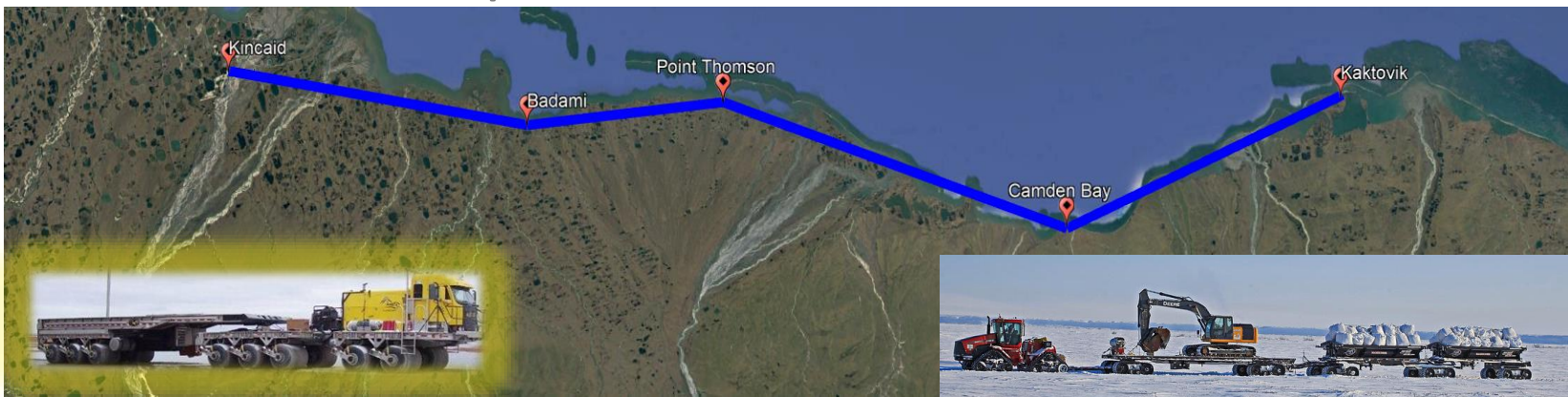


Deadhorse to Kaktovik Microwave

A 5 tower microwave link connecting the Village of Kaktovik to the Deadhorse.

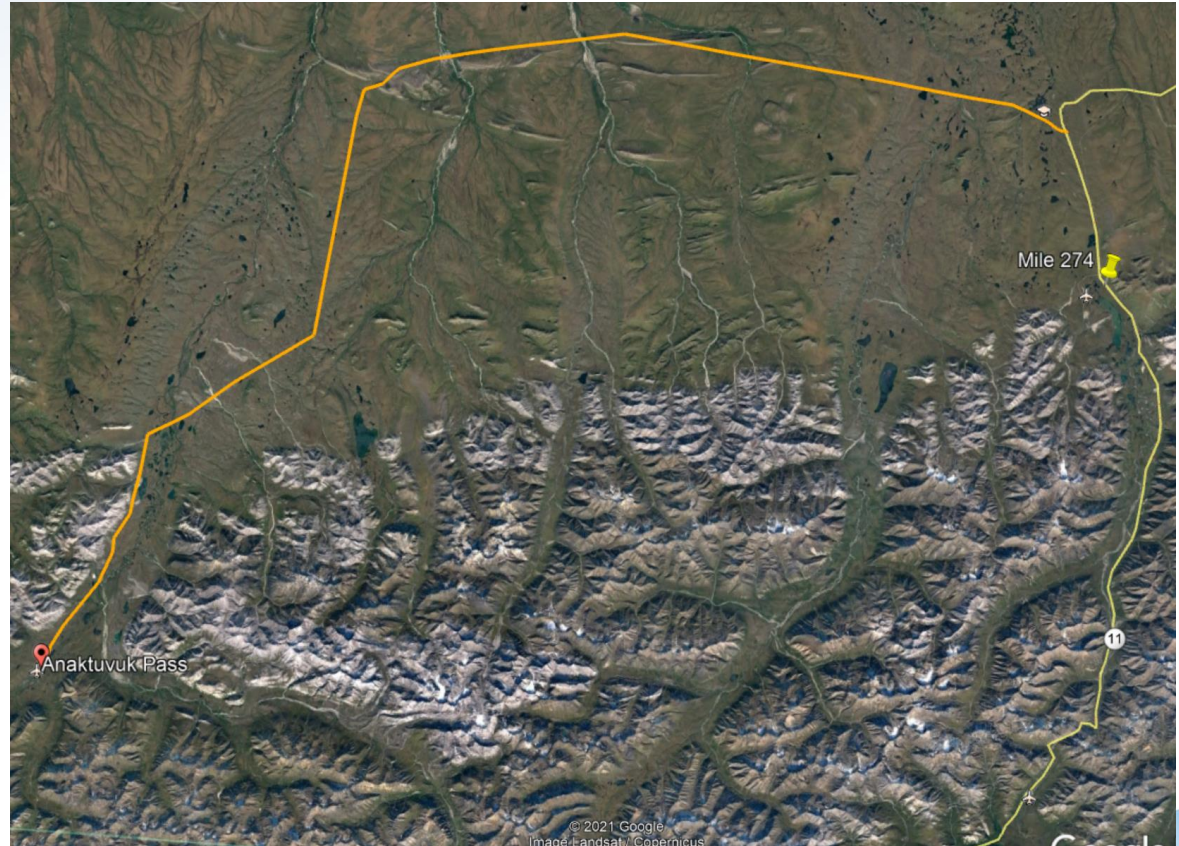
Route length: 119 miles

- 52 miles completed – Deadhorse to Pt Thompson
- Camden Bay tower and Barter Island towers remain
- Final stage of BLM permit
 - Completed design for Camden Bay
- Construction spans winters 2018/2023



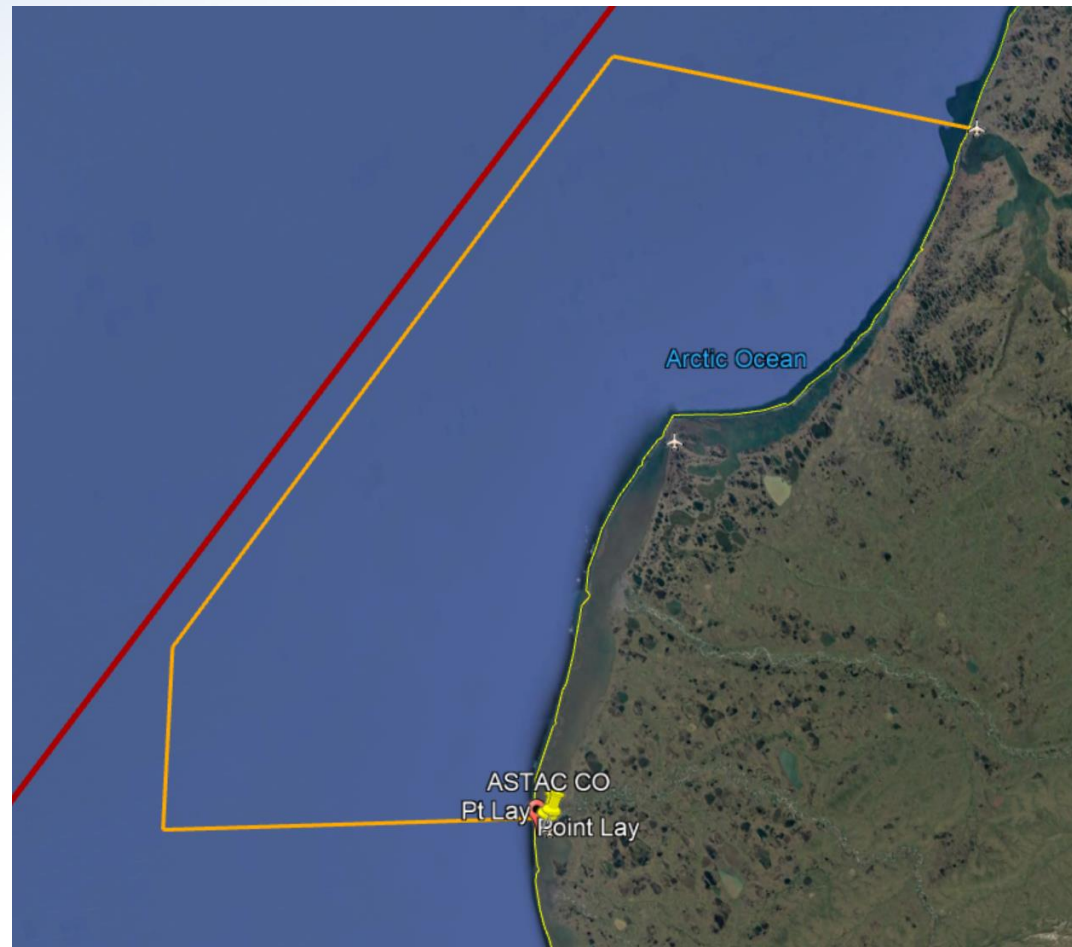
Dalton Highway to Anaktuvuk Pass Fiber

Planning Stages.



Wainwright to Pt Lay Fiber

Planning stages.



Questions?

